Division of Governmental Studies and Services

Washington State University Extension

Report to Washington Invasive Species Council

Invasive Species Capabilities and Capacity Survey—Tribal Governments

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INTRODUCTION

This report details the findings of a survey conducted by researchers at WSU's Division of Governmental Studies and Services (DGSS) in partnership with the Washington State Recreation and Conservation Office's Washington Invasive Species Council (WISC). The Division of Governmental Studies and Services (DGSS) is a social science research and outreach unit sponsored by WSU Extension and the College of Arts and Sciences and has served Washington State University's land grant mission for over 55 years. DGSS serves as an important link that leverages the University's resources for public benefit, through applied social science research, technical assistance, and training for government and non-government organizations throughout the Pacific Northwest. DGSS has extensive survey experience that informed this project and has worked with numerous Washington State government organizations, including natural resources organizations, such as the State Parks and Recreation Commission, the Department of Natural Resources and the Department of Fish and Wildlife.

Recognizing the importance of a needs assessment of community capacity to identify and respond to invasive species, WISC contracted with DGSS to collaboratively develop and conduct a survey of Washington State tribal and municipal government organizations who may be called upon for invasive species identification and response. This report focuses on the responses of tribal government organizations and provides municipal government responses in the analysis for comparative purposes. A separate report focusing on municipal government responses was also provided to WISC and can be found at https://invasivespecies.wa.gov/council/reports/.

METHODS

To better understand the current capacity and needs of tribal governments responding to invasive species, DGSS researchers and WISC representatives collaboratively developed the Invasive Species Capabilities and Capacity Survey.

The survey was implemented online using the Qualtrics survey platform in the Winter of 2020 and Spring of 2021. Representatives for the Washington Invasive Species Council developed a list of 219 tribal government employees from 29 total tribal governments. Potential respondents received three invitations to complete the survey from Washington Invasive Species Council representatives. A total of 34 tribal government employees completed or nearly completed (60% or more) of the survey for a response rate of 15.5%. Of these respondents, 26 identified their tribal government affiliation (as this question was not required). Overall, a total of 15 unique tribal governments were represented (51.7% of tribal governments on the original survey list), while 11 respondents were affiliated with the same tribal government. It is important to note that more tribes and organizations were represented but these numbers could not be determined due to respondents not indicating their organizational affiliation in the survey (skipping this question).

ANALYSIS

Organizational Demographics

Tribal government respondents were asked the total area of tribal or co-managed lands in acres, the number of employees in their organization, and the number of positions engaged in work on invasive species issues. Most responding governments manage land areas of 8,000 acres or more (68%, 19) and have fifty employees or more (76%, 22). Please see Figures 1 to 2 below.

Figure 1: Area of Tribal or Co-Managed Lands

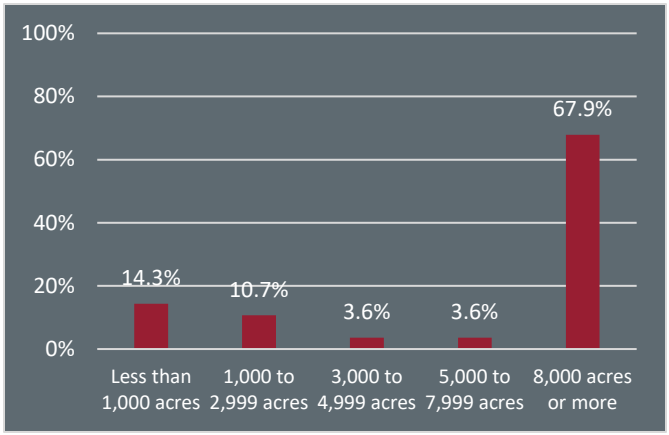
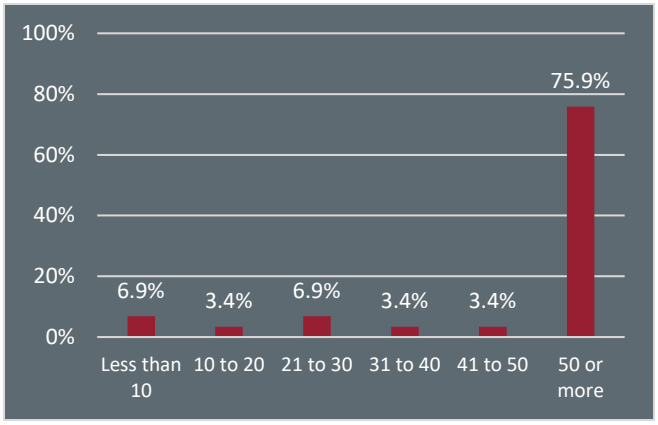
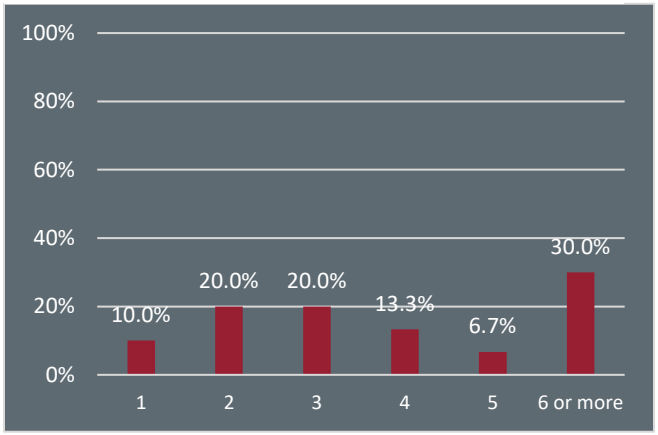


Figure 3: Number of Employees



Respondents were asked the number of employees engaged in invasive species issues (See Figure 3 Below). Half of tribal government respondents have three or fewer employees engaged in invasive species issue on a full or part time basis (50%, 15). Following this question, respondents were asked two open-ended questions: (1) *Where in your organization (departments or programs) are those positions located;* and *(2) Who are the decision makers in your organization when it comes to decisions involving invasive species?* A total of 29 respondents provided information on where these positions/departments were located, with the most common response being a natural resources department or director (12) and fisheries and/or wildlife departments (10). A total of 26 respondents provided information on decision-makers. The most common responses included the Tribal Council (10) and the Director of the Natural Resources Department (8).

Figure 2: Number of Employees Engaged in Invasive Species Issues



Species of Concern

Respondents were first asked whether their organization has identified invasive species that pose a significant risk to their organization or community and were able to select whether they had identified invasive animals, invasive insects, invasive plants, or wildlife diseases. Overall, 97.1% (33) of tribal government organizations had identified at least one type of invasive species (See Figure 4 Below). When examining responses across tribal government affiliations, all tribal governments represented had at least one organization identify a type of invasive species.

Figure 4: Tribal Governments with At Least One Invasive Species Identified

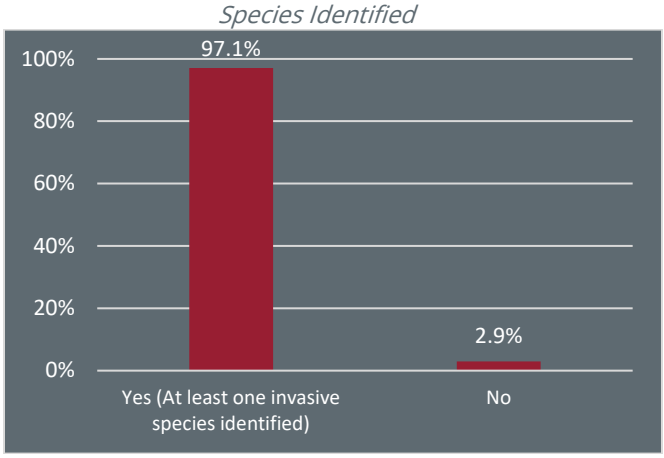
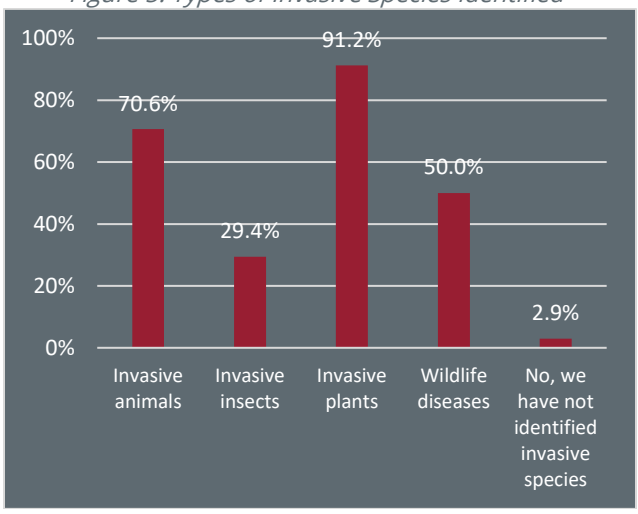


Figure 5 below indicates that type of invasive species most frequently identified by tribal governments was invasive plants (91.2%, 31), followed by invasive animals (70.6%, 24), wildlife diseases (50%, 17), and invasive insects (29.4%, 10). When compared to municipal governments, tribal government organizations more often reported identifying all invasive species categories, and particularly invasive animals and wildlife diseases. Respondents who indicated they had identified a type of invasive species that posed a risk were asked the following open-ended question: *What invasive species pose the greatest risk to your community?* A total of 31 organizations provided a response to this question. The most identified invasive species were Invasive Knotweeds (12) and European Green Crab (11). Various species of thistle were also identified

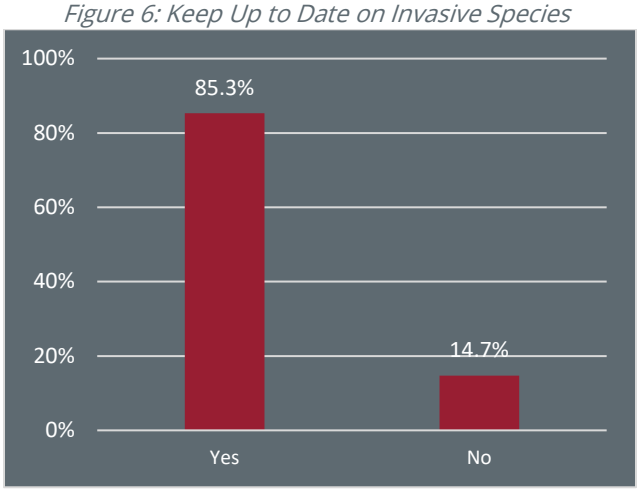
by several organizations (8), including Scotch thistle (8), Bull thistle (3), and Canadian thistle (3).

Figure 5: Types of Invasive Species Identified



Respondents were also asked whether *their organization keeps up to date with the latest invasive species to determine whether they pose a risk to their organization.* Most respondents indicated that their organization does keep up to date on the latest invasive species (85.3%, 29), and respondents indicated that at least one organization from each tribal government keeps up to date on the latest invasive species (See Figure 6 Below).

Figure 6: Keep Up to Date on Invasive Species



Those who indicated their organization keeps up to date on the latest invasive species were asked the following open-ended question: *How does your organization review invasive species to determine if they pose a significant risk to your organization or community?* A total of 26 respondents answered this question. Responses were greatly varied with some stating meetings with staff and colleagues (4), various surveys, such as fisheries surveys and annual survey and control measures (4), networking with various local, state, and federal entities, such as state and federal invasive species teams, local weed boards, Department of Ecology, and a Natural Resource Department (7), and research articles, literature reviews, and local scientists (4). The varied responses indicate that organizations do not have one source of information, but several, and little overlap seems to exist between the sources utilized.

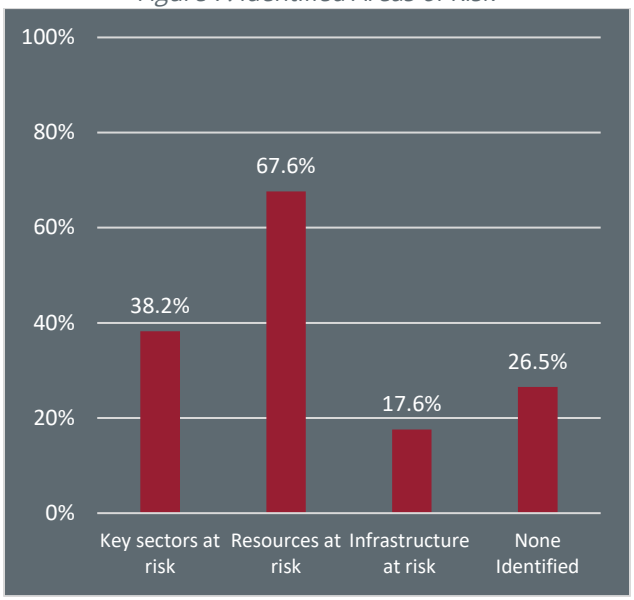
Risks and Potential Pathways

Respondents were then asked whether their organization had identified key sectors, resources, or infrastructure at risk from invasive species. As indicated in Figure 7 below, a total of 25 (73.5%) of tribal government organizations had identified a key sector (such as parks), resources (such as forest products), habitat type or infrastructure (such as irrigation systems) at risk, 67.7% (23) of respondents have identified resources (such as forest products) that are at risk, with less than half of respondents having identified sectors (38.2%, 13) or infrastructure (17.6%, 6) that are at risk. Nearly one-third of organizations (30%, 11) indicated that they have not identified any specific area of risk. When examining responses by tribal government, three of the 15 total tribal governments represented indicated that they had not identified a specific area of risk.

Those who indicated that their organization had identified sectors, resources, or infrastructure at risk, were then asked to clarify what is most at risk from invasive species introduction and damage, in an open-ended question. No respondents further clarified infrastructure at risk while 20 respondents specified resources were at risk. The most common responses for resources at risk included salmon (9), various habitat, such as wildlife, intertidal areas and nursery habitats, and forests (13), and harvests including timber, crab, ceremonial harvests, and

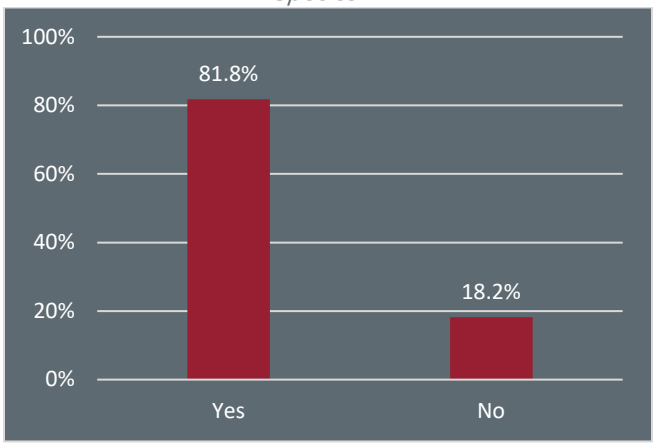
shellfish (5). Two respondents indicated sectors were most at risk, their responses included language such as: "the tribe's rural land holdings," "shellfish aquaculture". One respondent provided a more detailed response, indicating that invasive species "pose a threat to the purpose and cultural uses of the reservation and lands dedicated for fish and wildlife species. Noxious weeds create losses in forage and cover by reducing yields per acre thus creating poorer habitat both in quantity and quality for species using those habitats." This respondent also stated that "noxious weeds and invasive aquatic species threaten our economic livelihood and biological and cultural heritage related to the collection of native plant materials and procurement of game for traditional reasons."

Figure 7: Identified Areas of Risk



Participants were also asked whether their organization has identified pathways or points of entry of invasive species. Over three quarters of those who responded to the survey, representing 14 of the 15 tribal governments, indicated that their organization has identified pathways of invasive species (81.8%, 27). Those who answered yes to this question were asked to elaborate on their response; 25 respondents further specified the pathways identified. The most common response involved equipment (10), including boats and fishing equipment, firefighting vehicles and equipment, trucks, and construction equipment. Waterways was another common response (10), with respondents mentioning water circulation patterns, streams and rivers, upstream sources, and coastal currents. One respondent stated, "anything that moves."

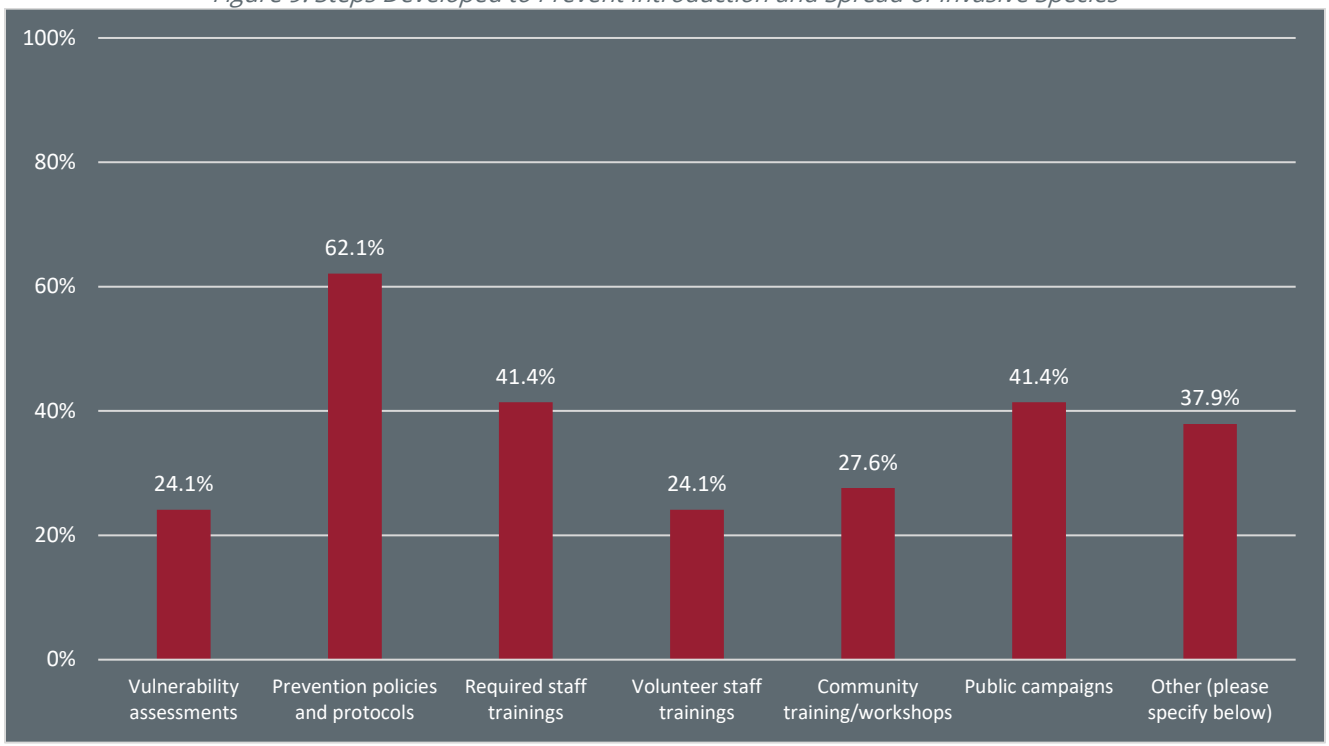
Figure 8: Pathways or Points of Entry for Invasive Species



Prevention, Emergency Preparedness, and Notification Structure

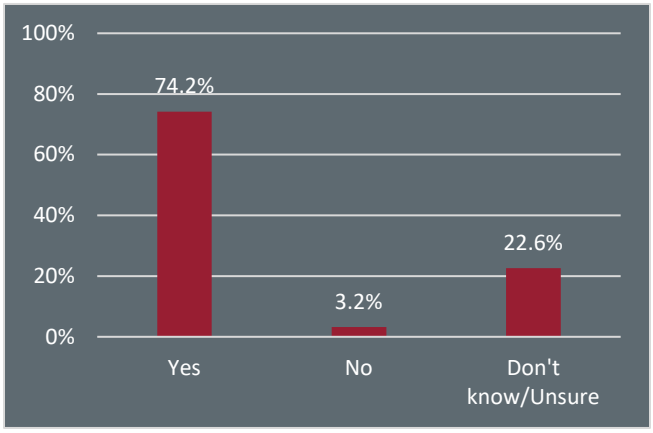
Survey participants were asked about the steps their organization has taken to prevent the introduction and spread of invasive species. Respondents were given a list of steps and asked to select all that applied. The steps provided were vulnerability assessments, prevention policies and protocols, required staff trainings, volunteer staff trainings, community training/workshops, public campaigns and other. The most frequently taken step by participants was the development of prevention policies and protocols (62.1%, 18). Over a third of respondents have also adopted required staff trainings (41.4%, 12), and public campaigns (41.4%, 12). Over a third of respondents indicated they have adopted "other" steps to prevent the introduction and spread of invasive species. Additional detail provided on steps included development of invasive species management protocol, regional stakeholder meetings, participation in governmental and community groups, education, and outreach (flyers, notifications, plant walks and volunteer weed pulling events) and control efforts on the ground.

Figure 9: Steps Developed to Prevent Introduction and Spread of Invasive Species



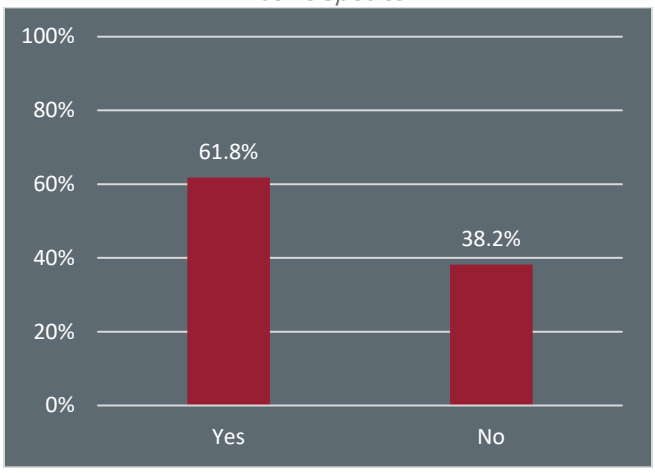
Respondents were also asked whether there are *barriers or gaps to being more preventative.* The majority of respondents indicated that there are barriers or gaps (74.2%, 23). Those who indicated that there are barriers or gaps were asked to further clarify the gaps and barriers that exist. Twenty-three respondents provided further clarification. The most common identified barrier is funding (19), followed by time (7), capacity (7) and staff (7).

Figure 10: Barriers to being more Preventative



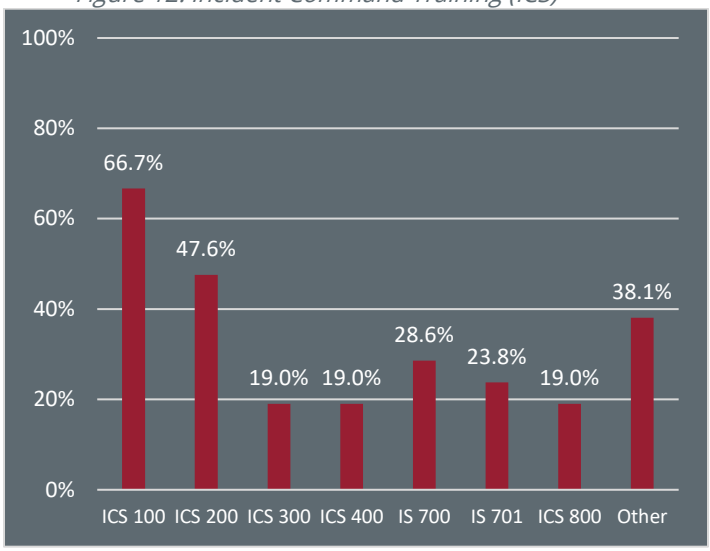
Respondents were also asked whether anyone in their organization has experience responding to a new detection of an invasive species, and if so, about how long it had been since someone in their organization or community responded to a new detection. Nearly two-thirds (61.8%, 21) of survey participants indicated that their organization has someone with experience who responds to an invasive species, representing a total of 12 tribal governments. Of these organizations, nearly half have responded to a new detection within the last year (9, 42.9%), while 33.3% (7) have responded to a new detection in the past 1 to 3 years.

Figure 11: Experience in Response to New Detection of Invasive Species



The survey then asked participants whether anyone in their organization who is responsible for invasive species response has participated in Incident Command Structure (ICS) training. Respondents were given the following list of ICS courses and asked to select all of those in which they have participated: *ICS 100, ICS 200, ICS 300, ICS 400, ICS 700, ICS 701, ICS 800*, and *Other*. The most common ICS training was ICS 100 (66.7%, 14), followed by ICS 200 (47.6%, 10). Of those participants who indicated that someone in their organization had taken ICS 100 training, 8 of the 15 total responding tribal governments were represented. For ICS 200 training, 6 of the 15 tribal governments were represented. Of those who selected other, 3 included additional detail with 1 respondent indicating that their employer has a command structure in place; however, this individual is not certain of the exact training completed. Another respondent mentioned a Lake Roosevelt-specific emergency response plan for Dressenid Mussels.

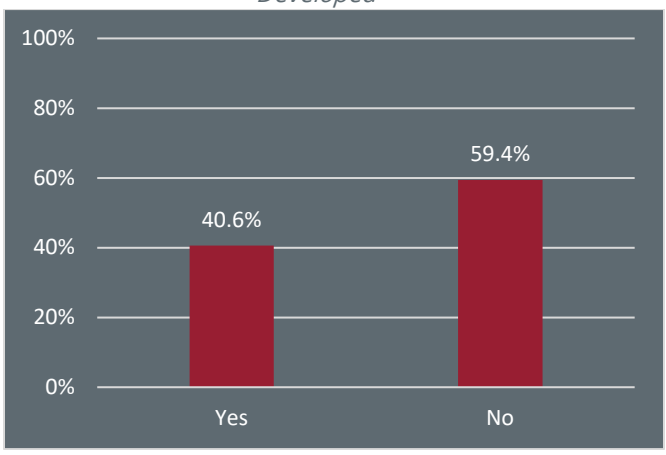
Figure 12: Incident Command Training (ICS)



The survey went on to ask the respondent's organization had developed a notification structure and process internally, such as notifying a WSU Extension Office of a new invasive species detection. Nearly 60% (19) of respondents indicated that their organization has not developed a notification structure (See Figure 13 below), representing 7 of the 15 responding tribal governments. Survey participants who responded yes to this question were asked to provide additional detail; 8 participants provided responses. Most answers to this question stated that the process was to notify the appropriate entity. Most did not specify an organization; however, Washington State Fish and Wildlife and the Washington Sea Grant Crab Team were mentioned. One respondent indicated they have an invasive species inventory application for iOS and Android, while another respondent mentioned email was the notification structure. Those respondents who indicated that their organization has not developed a notification structure were then asked if there are existing gaps to developing an internal notification system. Just over sixty-one percent (11) stated that they are unsure, while 27.8% (5) indicated that there are gaps to internal notification

system development. The respondents who answered "yes," described specific gaps, including lack of resources (including funding), capacity and staffing (4). One respondent indicated that their organization is currently working on addressing gaps in this area.

Figure 13: Internal Notification Structure and Process Developed

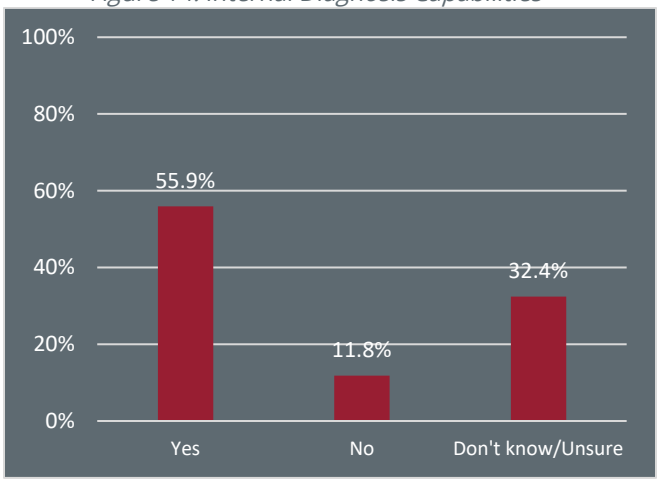


Diagnosis, Internal Response and Funding

Survey participants were asked to respond to the following open-ended question: *If a potential new invasive species is found in your community or area of interest, what office, department, or position is the most likely first point of contact?* Thirty-one participants responded to this question with the most common response being the Natural Resources Department or the Director of the Natural Resources Department (17). Other responses included state or county noxious weed control boards (3), such as the Washington State Noxious Weed Control Board, or Departments of Environmental Protection or Environmental Trusts (5). While most respondents focused on specific departments rather than positions that are the first point of contact, a few did mention positions that may be involved. A couple of respondents noted it would depend on the species, some mentioned ecologists (3), water quality specialists (2), and biologists (2) as positions that re the most likely first point of contact.

Respondents were also asked about their organization's capabilities and resources for invasive species response. When asked if their organization has internal diagnosis capabilities to verify a problem species, most tribal government organizations (55.9%, 19) indicated "yes". It should be noted that nearly a third (32.4%, 11) do not know if their organization has this capability (See Figure 14 below). Of the 4 respondents whose organizations do not have a diagnosis capability, one indicated that they have a list of external points of contact that could aid in problem species verification.

Figure 14: Internal Diagnosis Capabilities

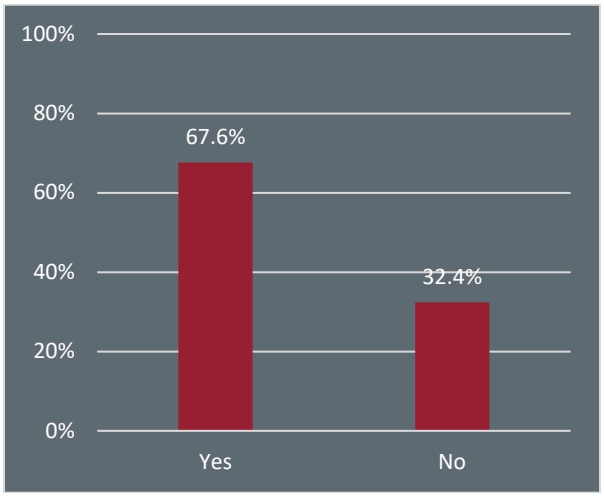


Following these questions, respondents were asked to identify the position within their organization that is responsible for notifying external organizations. Twenty-nine participants responded, the most common responses were biologists on staff (13), and department director(s) (11).

When asked about whether their organization has the ability to respond to an invasive species detection, over half (67.7%, 23) of tribal government organizations indicated that their organization can respond to invasive species (See Figure 15 Below). Based on their response to this question, respondents were branched to different open-ended questions. Those who responded "yes" were then asked: *Which department or programs within your organization have a role in responding to invasive species?* Those who answered "no" were asked: *Do you know of an*

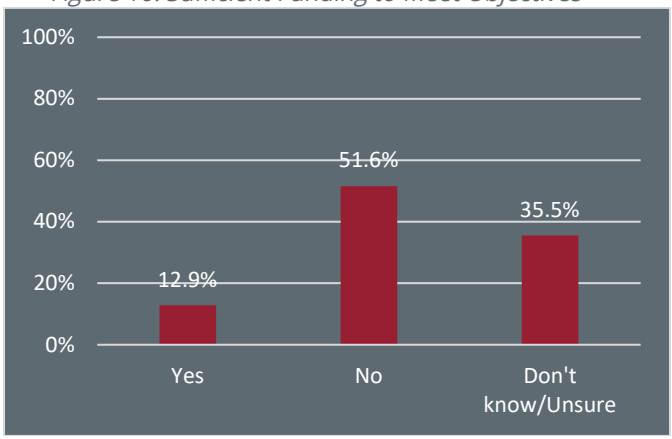
organization or community in your area that does have the ability to respond to an invasive species detection? Of those who said yes, 22 responded to the follow-up question regarding departments or programs with a role in responding to invasive species. Similar to previous questions, the most common answer was the Natural Resources Department (13). Other responses included Fisheries (3), Forestry (3), Fish and Wildlife (3), and Range Management Programs (2). Of those who responded no, only 7 answered the follow-up question with most stating "no" or "don't know" (4). Two responses mentioned collaboration with multiple organizations, depending on the detection. Another response stated, "not at this scale WDFW[Washington Department of Fish and Wildlife]/WDNR[Washington Department of Natural Resource] aquatic pest teams are good, but the Green Crab invasion has gotten beyond their current ability".

Figure 15: Ability to Respond to Invasive Species Detection



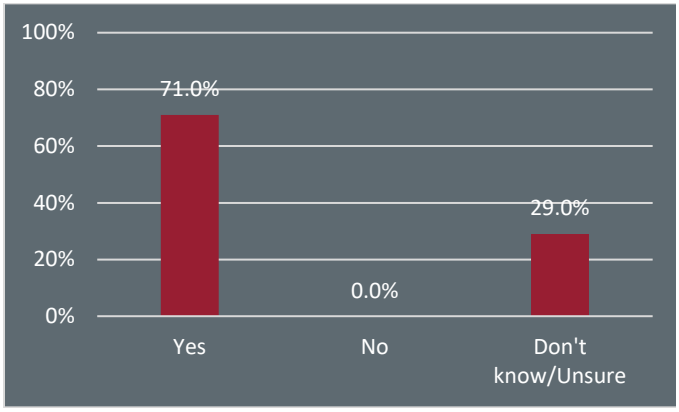
When asked whether their organization has sufficient funding to meet their organizational objectives 12.9% (4) of respondents said "yes", 51.6% (16) said "no", and 35.5% (11) responded that they do not know (See Figure 16 Below). Respondents were then asked the following open-ended question: *What are the barriers or gaps to effective identification and invasive species response in your organization?* A total of 28 participants responded to this question. Similar to past questions, the most common responses were funding (12), capacity (6), education and training (6), and time (4). Education and training received attention among several respondents. One respondent indicated that it is very difficult for any one person to understand all potential threats to the organization. Another said that training is needed across many of their programs because their individual programs are "out and spreading these invasive species and not thinking about what is happening." One respondent indicated that a list of the most dangerous species to "keep an eye out for" in the region would be beneficial.

Figure 16: Sufficient Funding to Meet Objectives



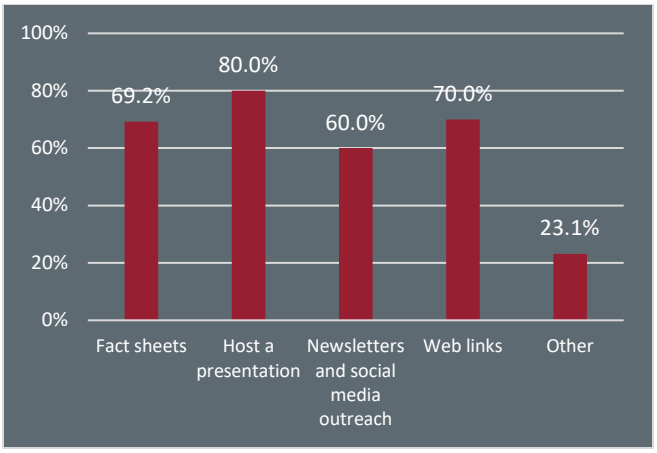
Respondents were asked several questions about their organization's leadership. First, respondents were asked whether their leadership was informed about the risk of invasive species. Nearly three quarters (71%, 22) of tribal government organizations answered that their leadership was informed: and 29% (9) responded that they did not know (See Figure 17 below).

Figure 17: Leadership Informed about Invasive Species Risk



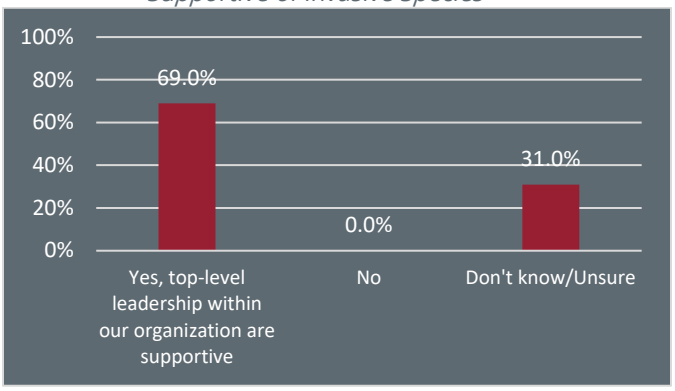
Those who indicated that their leadership is not informed or that they did not know whether their leadership is informed were also asked to identify how the council could assist in informing their leadership in dealing with invasive species threats. These respondents selected from a list of potential activities, including providing fact sheets for relevant invasive species, hosting a presentation about relevant invasive species, keeping organization up to date with the latest events and news through newsletters and social media outreach, web links with educational materials, and other. Most selected options among these ten respondents included: fact sheets for relevant species (90%, 9), hosting a presentation about relevant invasive species (80%, 8), and web links with educational materials (70%, 7). Other responses included zoom meetings, yearly or bi-yearly meeting with Tribal Council, and field trips to investigate damage.

Figure 18: How Council can Help Leadership



When asked whether the top-level leadership within their organization is supportive in responses to threats of invasive species, the vast majority (69%, 20) indicated yes, while 31% (9) indicated they did not know (See Table 19 below).

Figure 19: Top-Level Leadership in Organization Supportive of Invasive Species



Authority, Planning, and Permitting

Respondents were next asked several questions on the topics of authority, planning, and permitting. The first question in this section was: *Do departments within your organization have existing authority to respond to invasive species?* Those who answered yes were asked to specify which departments. Most tribal government organizations answered that the authority to respond does currently exist (81.8%, 27) (See Figure 20 below), with the most common department identified being the Natural Resource Department (12), Wildlife (5), and/or Fisheries (3). Nearly two thirds of those responding that their departments had existing authority to respond also

felt that the existing authorities were able to respond adequately (61.5%, 16) (See Figure 21 below). Of those who further elaborated, their "yes" response (12), funding (5) and capacity (3) were still noted issues in response.

Figure 20: Departmental Authority to Respond to Invasive Species

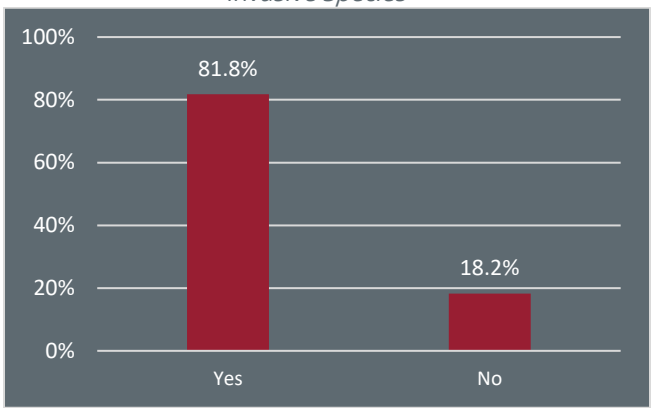
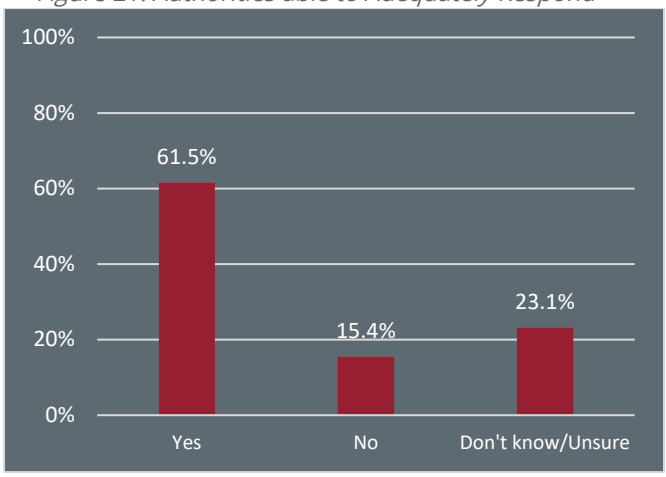
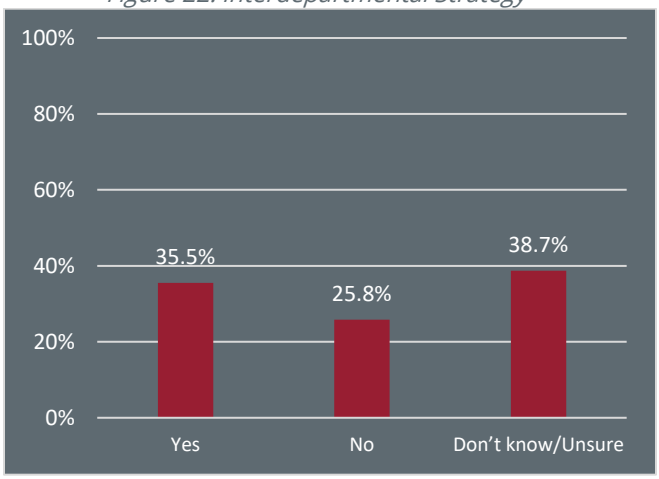


Figure 21: Authorities able to Adequately Respond



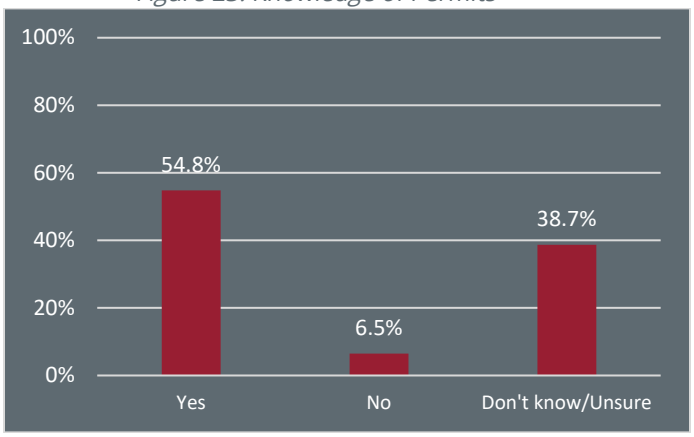
The next question was about planning and asked: *Does your organization have an interdepartmental strategy or plans that guide your activities as they relate to invasive species?* Only 35.5% (11) of tribal government respondents said that that a strategy exists. Indeed, more tribal government organization respondents were unsure whether their organization had a strategy in place (38.7%, 12).

Figure 22: Interdepartmental Strategy



The last question in this section was about permits. Respondents were asked whether their organization has knowledge of what permits may be required to act on invasive species and the process to gain those permits. Just over half of respondents indicated that their organization does have knowledge of the required permits (54.8%, 17), but over a third were unsure (38.7%, 12).

Figure 23: Knowledge of Permits

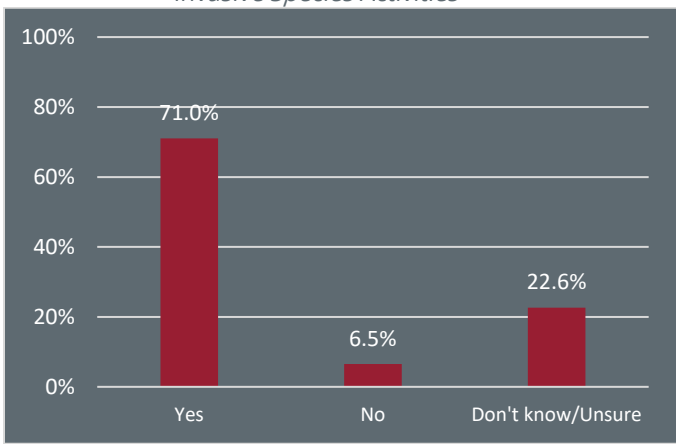


Messaging, Public Awareness, and Stakeholder and Relationships

The final section of the survey covered topics focused on public awareness, public messaging, awareness of WISC, and partnerships. First, respondents were asked whether *the community members within their area of interest are generally*

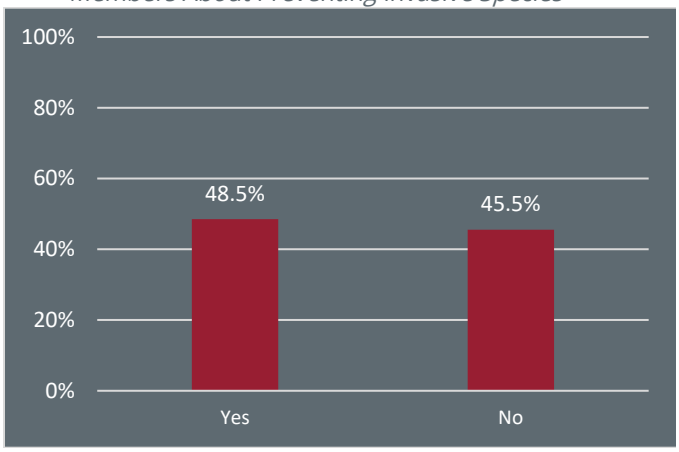
supportive of the activities their organization takes to prevent and stop invasive species. A majority of respondents answered that community members are supportive (71%, 22), while nearly a quarter were unsure (22.6%, 7).

Figure 24: Community Members are Supportive of Invasive Species Activities



Next respondents were asked whether their organization has specific public messaging used to engage community members in preventing and stopping invasive species. Roughly half of the respondents indicated that they do have public messaging on invasive species (51.6%, 16), representing 9 of the 15 total tribal governments.

Figure 25: Existing Public Messages for Community Members About Preventing Invasive Species



The next question asked survey participants whether they were familiar with WISC. A total of 23 respondents (69.7%) are familiar with WISC, representing 12 of the 15 tribal governments. Those who were familiar with WISC were also asked how WISC could help to build community support. As with some previous questions, respondents were given a list of ideas, and asked to select as many as they thought would help. The most frequent response was that WISC could provide training and workshops (78%, 18), followed by presentations (48%, 11), and risk assessments (44%, 11). Five of those who indicated "other" for this question elected to further explain. Those further explanations included: help with funding (3), press announcements to garner public support for more resources (1), more invasive species inventory specialists (1). One respondent indicated that working closely with tribal members on the Invasive Species Council, one west side and one east side would be helpful.

Figure 26: Familiarity with WISC

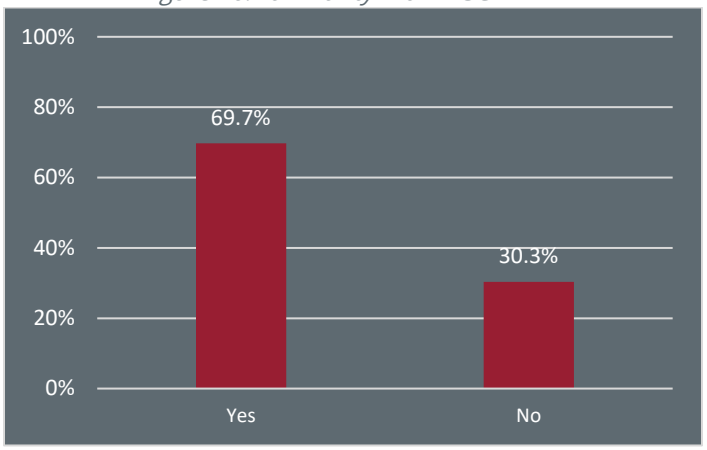
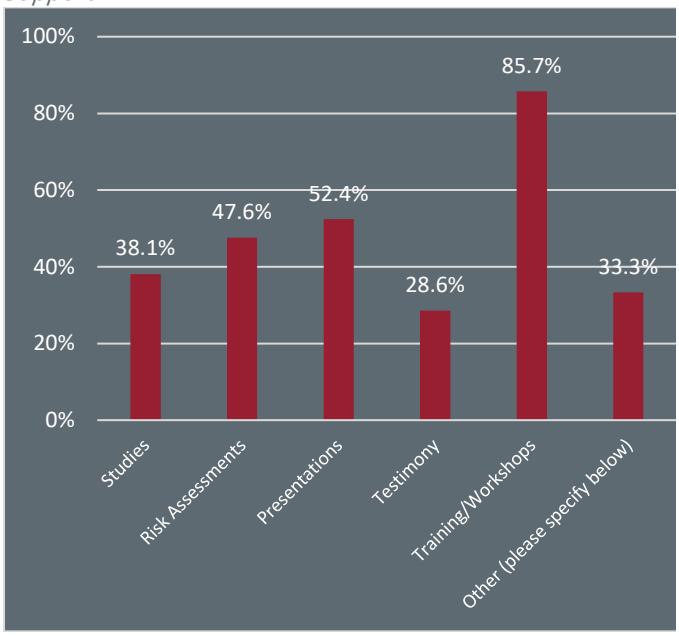
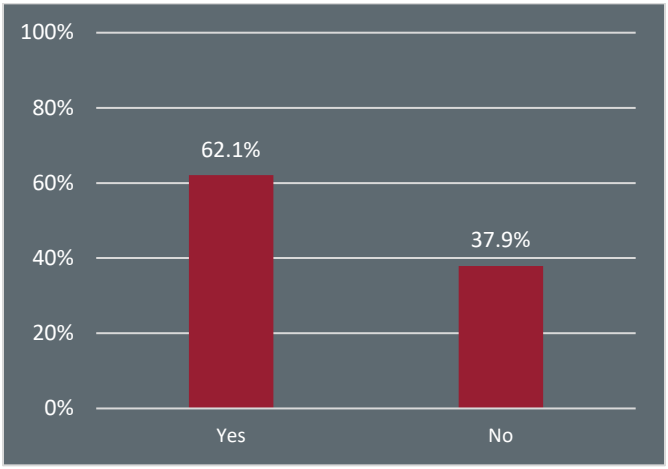


Figure 27: Ways WISC Can Help Build Community Support



Respondents were asked whether their organization collaborates with external agencies to perform public outreach. Half of the participants responded "yes" (62%, 18). All who responded with a "yes" provided additional information. The most common external agencies referenced were WSU Extension (6), county and state noxious weed control boards (4), and the Washington Department of Fish and Wildlife (4).

Figure 28: Collaboration with External Agencies for Public Outreach



CONCLUSIONS AND RECOMMENDATIONS

Tribal governments represented in the responses to this survey tend to be larger entities, managing 8,000 or more acres, and having fifty or more employees. Importantly, all respondents indicated that at least one employee was assigned to manage invasive species response. Perhaps as a result, almost all respondents have identified potential invasive species, sectors that may be impacted by invasive species, and the pathways that invasive species might enter managed lands. Many have taken steps to prevent the spread of invasive species. That being said, responses also show that there are areas for improvement. These areas include development of notification structures, funding, interdepartmental planning, and public messaging. Nearly a third of those who participated in the survey suggested that their organization does not have the ability to respond to an invasive species detection. As indicated above respondents indicated that there are some areas where WISC could help improve identification and response to invasive species, including providing fact sheets and trainings and workshops.